

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A system for manufacturing a membrane electrode assembly for a fuel cell comprising:

a catalyst solution preheating device preheating a cathode catalyst solution and an anode catalyst solution;

[[an]] a carrying gas preheater preheating [[an]] a carrying gas;

a cathode catalyst solution spray nozzle supplied with the cathode catalyst solution preheated by the catalyst solution preheating device and the carrying gas preheated by the carrying gas preheater and configured to spray the supplied cathode catalyst solution to one side of an electrolyte membrane; and

an anode catalyst solution spray nozzle supplied with the anode catalyst solution preheated by the catalyst solution preheating device and the carrying gas preheated by the carrying gas preheater and configured to spray the supplied anode catalyst solution to other side of the electrolyte membrane.

wherein the cathode and anode catalyst solution spray nozzles operate to alternately spray the catalyst solution, and

wherein the carrying gas preheater heats the carrying gas to a temperature that is higher than the boiling points of the cathode catalyst solution and the anode catalyst solution.

2. (Original) The system of claim 1, wherein the catalyst solution preheating device heats the cathode catalyst solution and the anode catalyst solution at a temperature in a range of $0.6*BP$ to $0.95*BP$, where BP is a boiling point of a solvent of the catalyst solution.

3. (Original) The system of claim 1, wherein the catalyst solution preheating device comprises:

a cathode catalyst solution preheater preheating the cathode catalyst solution; and
an anode catalyst solution preheater preheating the anode catalyst solution.

4. (Original) The system of claim 3, wherein the cathode catalyst solution preheater heats the cathode catalyst solution at a temperature in a range of $0.6 \times BP$ to $0.95 \times BP$, where BP is a boiling point of a solvent of the catalyst solution.

5. (Original) The system of claim 3, wherein the anode catalyst solution preheater heats the anode catalyst solution at a temperature in a range of $0.6 \times BP$ to $0.95 \times BP$, where BP is a boiling point of a solvent of the catalyst solution.

6. (Canceled)

7. (Canceled)

8. (Original) The system of claim 1, wherein the carrying gas is one of argon, helium, nitrogen, and air.

9. (Currently Amended) A method for manufacturing a membrane electrode assembly for a fuel cell comprising:
preheating a cathode catalyst solution;
preheating an anode catalyst solution;
preheating [[an]] a carrying gas;
spraying the preheated cathode catalyst solution through a cathode catalyst solution spray nozzle using the preheated carrying gas to one side of an electrolyte membrane; and
spraying the preheated anode catalyst solution to other side of the electrolyte membrane through an anode catalyst solution spray nozzle using the preheated carrying gas,
wherein the spraying of the preheated cathode catalyst solution and the spraying of the preheated anode catalyst solution are alternately performed, and
wherein in the preheating of the carrying gas, the carrying gas is heated to a temperature that is higher than the boiling points of the cathode catalyst solution and the anode catalyst solution.

10. (Canceled)

11. (Original) The method of claim 9, wherein in the preheating of the cathode catalyst solution, the cathode catalyst solution is heated at a temperature in a range of $0.6 \times \text{BP}$ to $0.95 \times \text{BP}$, where BP is a boiling point of a solvent of the catalyst solution.

12. (Original) The method of claim 9, wherein in the preheating of the anode catalyst solution, the anode catalyst solution is heated at a temperature in a range of $0.6 \times \text{BP}$ to $0.95 \times \text{BP}$, where BP is a boiling point of a solvent of the catalyst solution.

13. (Canceled)